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COST-UTILITY OF FIRST-LINE ADALIMUMAB AND TOCILIZUMAB MONOTHERAPIES IN RHEUMATOID ARTHRITIS BASED ON HEAD-TO-HEAD DATA

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OBJECTIVES: Until recently, large-scale head-to-head randomized clinical trials (RCT) involving biologic drugs in the treatment of rheumatoid arthritis (RA) have been lacking. In addition, most evidence of biologic RA treatments has relied on combination treatment with methotrexate. The RCT ADACTA compared adalimumab vs. tocilizumab monotherapies as the 1st biologic treatments for severe RA, and demonstrated tozilizumab's clinical superiority over adalimumab. Based on this evidence, we assess the cost-utility of adalimumab and tocilizumab monotherapy in RA after the failure of traditional disease modifying antirheumatic drug(s) (tDMARD). **METHODS:** Two sequences, namely adalimumab or tocilizumab followed by etanercept followed by best supportive care (BSC) including tDMARDs, were implemented in a probabilistic, individual sampling (microsimulation model) setting in order to compare the results among 1,230 Finnish RA patients in a lifetime scenario (based on the Finnish social insurance institution reimbursement data, 1,230 [42.6%] of anti-TNF users purchased anti-TNF without tDMARD in 2012). Clinical outcomes (no ACR20, ACR20, ACR50 and ACR70 responses, and their impact on Health Assessment Questionnaire, HAQ) were obtained from ADACTA and drug survivals from literature. HAQ-scores were linked non-linearly to EQ-5D scores based on the tocilizumab trials, and to hospitalizations and lost production days through literature data. All resources were valued with Finnish unit costs (drugs 4/2013, other costs 2012 real value). Analyses were performed from the Finnish payer perspective (excluding productivity loss) and societal perspective including 3% annual discount rate. **RESULTS:** A QALY gained with the tocilizumab sequence costs €14,294 (€9,111) compared with the adalimumab sequence from the payer (societal) perspective. The respective expected value of perfect information (EVPI) for the payer was €996/patient. Population EVPI was €121,770 with €20,000/QALY gained. According to cost-effectiveness acceptability frontier, the tocilizumab sequence had 89% probability for cost-effectiveness at €20,000/QALY gained. **CONCLUSIONS:** After tDMARD(s) failure, tocilizumab monotherapy was cost-effective in comparison to adalimumab monotherapy.

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LONG TERM COSTS AND OUTCOMES IN PSORIATIC ARTHRITIS PATIENTS NOT RESPONDING TO CONVENTIONAL THERAPY TREATED WITH TUMOR NECROSIS FACTOR INHIBITORS: THE EXTENSION OF PSORIATIC ARTHRITIS COST EVALUATION (PACE) STUDY

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OBJECTIVES: Poor information on long term outcomes and costs on Tumor Necrosis Factor-α (TNF-α) inhibitors in Psoriatic Arthritis (PsA) are available. Our aim was to evaluate long-term costs, benefits and cost-effectiveness of TNF-α inhibitors in PsA patients with inadequate response to conventional treatment with traditional disease-modifying antirheumatic drugs (DMARDs). **METHODS:** A total of 55 of the 107 enrolled patients included in the study at one year, completed the 5 years follow up period (2005-2010). Patients aged older than 18 years, with different forms of PsA and failure or intolerance to DMARDs therapy were treated with anti-TNF agents. Information on resource use, quality of life, disease activity, function and laboratory values were collected at baseline and through the 5 years of therapy. Costs (expressed in Euro 2011) and utility (measured by EQ-5D instrument) before and after TNF-α inhibitorstherapy were compared in order to estimate the incremental cost per quality adjusted life year (QALY) gained. The cost-effectiveness acceptability-curve was also calculated. **RESULTS:** Thirty-four patients were males (61.8%), aged mean(SD)= 48.94(11.09) years. The majority of patients (83.6%) had a predominant or exclusive peripheral arthritis. At the end of the 5 years, there was a significant increase in direct costs due to an increase of drug cost caused by TNF-αinhibitors that was partially offset by the decrease in indirect costs. The incremental cost estimated and the utility gained of 0.22 gave an incremental cost-effectiveness ratio of 39,678.6 € per QALY gained for the society. The acceptability curve showed there would be a 90% likelihood that anti-TNF therapy would be considered cost-effective at willingness-to-pay threshold of €60,000 per QALY gained. **CONCLUSIONS:** Cost-effectiveness ratios are within the commonly accepted Italian willingness-to-pay threshold. These results show how TNF-α inhibitors could be long-term cost-effectiveness treatment. Our results need to be confirmed in larger samples of patients.

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HIGH ECONOMIC BURDEN OF MODERATE TO SEVERE PSORIATIC ARTHRITIS ON PAID WORK AND HOUSEHOLD PRODUCTIVITY: BASELINE RESULTS FROM THE RAPID-PSA STUDY

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OBJECTIVES: To estimate the economic burden of moderate to severe psoriatic arthritis (PsA) on workplace and household productivity using data from RAPID-PsA. **METHODS:** The ongoing Phase 3 RAPID-PsA trial (NCT01087788) recruited patients (pts) with active PsA. Impact of PsA on workplace and household productivity and daily activities was assessed at study baseline, using the validated arthritis-specific Work Productivity Survey (WPS). **RESULTS:** At baseline, pts had a mean age of 48 years and 55% were female; 61.6% had psoriasis skin involvement ≥3% body surface area. 59.5% of pts were employed, 14.0% work disabled due to PsA, and 13.5% retired. Overall, a high burden of PsA on workplace and household productivity and on social activities was reported, with on average >1 week (wk) of paid work affected and >2 wks of household duties or social activities affected per month. Household productivity losses were on average, up to 2 to 3 times higher in non-employed or disease work disabled pts vs employed pts: on average household duties were affected 18 days or 26 days vs 10 days/month, respectively. Employed pts with manual jobs reported higher productivity losses at work and within the home vs those with non-manual jobs. Overall, 41.8% of pts required regular assistance from relatives, friends or paid caregivers in their usual activities because of PsA. These pts reported on average 2 to 3 times higher workplace and household productivity losses vs pts who did not require help. **CONCLUSIONS:** PsA is associated with a high burden of disease on workplace and household productivity that could lead to large financial burden for pts and society. Effective PsA treatments are needed to prevent disability and work losses, and reduce economic burden of the disease.

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ECONOMIC BURDEN OF AXIAL SPONDYLOARTHRITIS RELATED TO PAID WORK AND HOUSEHOLD PRODUCTIVITY AT BASELINE IN THE RAPID-AXSPA STUDY: DIFFERENCES AND SIMILARITIES BETWEEN ANKYLOSING SPONDYLITIS AND NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS

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OBJECTIVES: To estimate the economic burden of axial spondyloarthritis (axSpA) and directly compare ankylosing spondylitis (AS) and axSpA with no definitive sacroiliitis on X-ray (non-radiographic axSpA, nr-axSpA) in terms of workplace and household productivity losses. **METHODS:** The ongoing Phase 3 RAPID-axSpA trial (NCT01087762) recruited patients (pts) with adult-onset active axSpA according to ASAS criteria, and included AS and nr-axSpA pts. The impact of axSpA on workplace and household productivity was assessed at study baseline (BL), using the arthritis-specific Work Productivity Survey (WPS). **RESULTS:** At BL, 69.2% of axSpA, 67.4% AS and 71.4% nr-axSpA pts were employed outside the home. A high burden of axSpA on workplace and household productivity and on social activities was reported, with slightly higher burden in nr-axSpA vs AS pts. More AS vs nr-axSpA pts were unable to work (15.7% vs 8.2%). On average, axSpA pts reported >1 wk of paid work and >2 wks of household duties or social activities affected/month. Household productivity losses were up to 2–3 times higher in non-employed and disease work disabled vs employed pts. Employed pts with manual jobs reported higher losses at paid work and within household vs pts with non-manual jobs. 39.1% of axSpA pts required regular assistance in their usual activities (42.1% in AS vs. 35.4% in nr-axSpA) and reported higher workplace and household productivity losses vs those who did not require help. Similar patterns were observed in AS and nr-axSpA. **CONCLUSIONS:** A similarly high burden of disease on workplace and household productivity was seen in AS and nr-axSpA pts that could lead to large financial burden for pts and society. Effective axSpA treatments are needed to prevent disability and work losses and to reduce the economic burden of axSpA.

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LOSS OF PRODUCTIVITY IN POLISH PATIENTS WITH RHEUMATOID ARTHRITIS

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OBJECTIVES: To assess loss of paid productivity in Polish rheumatoid arthritis (RA) patients according to disease activity and disability. **METHODS:** We conducted a prospective one-center observational study with 6-month time horizon. The sample consisted of 109 RA patients of working age (women:<60 years; men:< 65 years), stratified according to Disease Activity Score (DAS28-CRP) and disability index of the Health Assessment Questionnaire (HAQ-DI). Productivity loss was expressed by absenteeism and employment status changes: reduced work hours (part-time), unemployed and/or early retirement due to RA. Spearman rang correlation coefficient test was used to investigate the relationship of productivity loss with disease activity and disability. **RESULTS:** Patients were on average 48.5 years of age, had a mean disease duration of 8.5 years, and 85% were female. DAS28-CRP was ≤5.1 in 52 patients (group A) and >5.1 in 57 patients (group B). HAQ-DI was >2 in 22 patients (group I), >1 and ≤2 in 54 patients (group II), ≤1 in 33 patients (group III). Number of patients who lost productivity was 94 (86%) (79% in A vs. 93% in B, 100%, 94% and 63.6% in I, II and III, respectively). Of them 63 (58%) patients received disability pension due to RA (48% in A vs. 67% in B, 77%, 76% and 15% in I, II and III, respectively). Mean number of working days lost was 120.7 (97.2 in A vs. 142.9 in B; 157.3, 143.1 and 59.8 in I, II and III, respectively). Proportion of patients with productivity loss and number of working days lost were correlated with disease activity ($p<0.01$ and $p<0.001$, respectively) and disability index (both $p<0.001$). **CONCLUSIONS:** This study indicates high impact of disease activity and disability on productivity loss in RA patients. Treatment aiming at reducing disease activity decreases disability progress and may enhance productivity in Polish patients with RA.

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RESOURCE USE DUE TO DISABILITY IN POLISH RHEUMATOID ARTHRITIS PATIENTS: SIGNIFICANT INCREASE OF TRANSPORTATION NEEDS AND HOME VISITS

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OBJECTIVES: To assess transportation needs and number of home visits in relation to disease activity (DAS-28CRP) and disability index of the Health Assessment Questionnaire (HAQ-DI) in Polish patients with rheumatoid arthritis (RA) **METHODS:**